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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,397	04/02/2001	Toshio Horiki	MTS-3247US	8819

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RATNER AND PRESTIA
Suite 301
One Westlakes, Berwyn
P.O. Box 980
Valley Forge, PA 19482-0980

EXAMINER

JORGENSEN, LELAND R

ART UNIT	PAPER NUMBER
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2675

LS

DATE MAILED: 05/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/824,397

Applicant(s)

HORIKI, TOSHIO

Examiner

Leland R. Jorgensen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26 - 39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26 - 39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 36 – 38 are rejected under 35 U.S.C. 102(e) as being anticipated by Dunton, et al., USPN 6,690,357 B1.

Claims 36 and 38

Dunton teaches an electric device having a camera [scanning sensors 14 and 16 which may be a digital camera] and a display 18. Dunton, col. 2, lines 34 – 46; and figure 2. Dunton teaches that the electronic device may include a telephone. Dunton, col. 6, lines 11 – 13.

Dunton teaches storing as a control input a sequential change, first (i) of a first hand pattern, and then second (ii) of a second hand pattern. The second hand pattern is different from the first hand pattern. Dunton, col. 5, lines 4 – 28; and figure 7. The pattern may include the user's fingers. Dunton, col. 4, lines 36 – 39.

Dunton teaches imaging, by the camera, the first hand pattern; imaging, by the camera, the second hand pattern; recognizing the first hand pattern imaged in step (b); recognizing the second hand pattern imaged in step (c); comparing a sequential change of first step (d) and then

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second step (e) to the stored control input; and (g) controlling the information on the display, after the comparing of step (f). Dunton, col. 4, line 3 – line 5, col. 3; and figure 6.

Claim 37

Dunton teaches that this analysis is continuous. Dunton, col. 4, lines 27 – 32.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 26 – 28, 35, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunton et al. in view of Gale et al., USPN 6,452,577 B1 and Nishiyama et al., USPN 5,436,954.

Claim 26

Dunton teaches an information display method comprising the steps of imaging and capturing an image of an object; processing the image captured by said imaging step; displaying prescribed information; and displaying a designated pointer on said display. Dunton, col. 4, lines 32 – 65; and figure 6.

Dunton does not teach that the display step prescribes information on a projection microdisplay.

Gale teaches a projection microdisplay. Gale, col. 1, lines 12 – 16; col. 2, lines 60 – 67; and figure 1.

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It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the projection microdisplay as taught by Gale with the information display method of Sigel to provide a small sized information display on a hand held device having an image that can be readily viewed by the user. Gale invites such combination by teaching,

This invention is a device for displaying information from a microdisplay in an enlarged format. It is recognized that microdisplays can be used in hand-held devices such as pagers, video and digital cameras, cellular telephones, and card readers. The user holds the system in proximity to their eye such that they view the microdisplay through an optical system which magnifies the image on the microdisplay. Small area displays can be made using different technologies including transmission or reflective liquid crystal displays, light emitting diode (LED) array displays, electroluminescent displays, digital micro-mirror displays and field emission displays.

It is a desire to have an image which is viewable by a user at a distance greater than a few inches from the device containing an electronic display. The present invention produces a magnified image from a small area display that is directed along an optical path to viewing surface optical elements readable at a greater distance.

Gale, col. 1, lines 12 – 31.

Although Gale teaches a projection microdisplay for a handheld device, neither Gale nor Dunton specifically teaches controlling the pointer using only the same hand that hold the projection micro-display.

Nishiyama teaches a portable radio telephone being configured so that one operate various buttons, including a pointer (selector 8), with only one hand while holding the telephone set itself in the same hand. Nishiyama, col. 1, lines 53 – 65; col. 2, lines 36 – 43; col. 4, lines 5 – 31; col. 5, lines 30 – 33; col. 9, lines 43 – 47; and figures 4 and 8.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the one handed operation of Nishiyama with the information display method of

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Dunton and Gale to provide a handheld device having reduced size that could be operated with one hand. Nishiyama invites such combination by teaching,

It is an object of the present invention to provide a telephone set which makes it possible to easily perform various operations required particularly for conducting a radio telephone conversation with one hand while the telephone set itself is being held by the same hand.

It is another object of the present invention to simplify the procedure for selecting or operating a plurality of functions of the telephone set.

It is still another object of the present invention to provide a multi-functional telephone set, the number of buttons thereof being reduced as much as possible.

Nishiyama, col. 1, line 61 – col. 2, line 3. Nishiyama concludes,

According to the embodiment of the present invention, as described above, since the rotary selector is disposed in the hinge section of a telephone set which is folded so as to be housed, the hinge section is made to have a desired size so that the mechanical strength of the hinge section can be increased. Since the provision of the rotary selector results in a reduction of key buttons for performing multiple functions, there is an advantage in that the space where the telephone set is arranged can be effectively used.

According to the embodiment of the present invention, there is an advantage in that by using the rotary selector disposed in a terminal, no key buttons exclusively used for controlling the cursor are needed, and the operation with one hand is made easier.

In addition, according to the embodiment of the present invention, the number of necessary key buttons can be reduced since the portable telephone set is provided with a rotary selector, and key buttons and a display of the most appropriate size can be arranged in a telephone set of the most appropriate size. Furthermore, when the rotary selector is disposed in the hinge section of a folding type portable telephone set, the space where the rotary selector is disposed can be reduced.

According to the embodiment of the present invention, since a rotary selector is disposed in the telephone set, it is possible to easily perform various operations necessary, in particular, for conducting a radio telephone conversation with the fingers of one hand while the telephone set itself is being held with the same hand.

Nishiyama, col. 9, lines 29 – 48.

Claim 27

Dunton teaches that the image captured by said imaging step is a fingertip, a first hand pattern and a second hand pattern. Dunton, col. 5, lines 29 – 40.

Claim 28

It is inherent that the display step makes the display surface be equal in size to a region within which said imaging step captures said image or be smaller than said capture region. For example, assume that the camera module [e.g. scanning sensor 14 in Dunton, figure 1] was aimed at a person. The capture region would include the image of the person including a portion of the background such as the Empire State Building in New York City. The video view screen is smaller than the person and the Empire State Building included in the capture region.

Claim 35

Dunton teaches that the display is used for a telephone. Dunton, col. 6, lines 10 – 17.

Claim 39

Gale teaches a projection microdisplay. Gale, col. 1, lines 12 – 16; col. 2, lines 60 – 67; and figure 1.

5. Claims 29 – 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunton et al. in view of Gale et al. and Nishiyama et al. as applied to claim 26 above, and further in view of Sigel, USPN 5,168,531.

Claim 29

Dunton teaches that the video analysis of the user's hands may be a conventional pattern recognition software which recognizes the shape of the user's hand and corresponding movements thereof. Dunton, col. 3, lines 57 – 62.

Neither Dunton, Gale, nor Nishiyama specifically state that the image processing step extracts a contour of the image.

Sigel teaches that the image processing step extracts a contour of the image, and the position detecting step detects the position of the image on a screen from the extracted contour. Sigel, col. 5, lines 12 – 44.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the imaging methods as taught by Sigel with the information display method as taught by Dunton, Gale, and Nishiyama to provide a system responsive to finger pointing information. Sigel invites such combination.

Another aspect of the invention is a data input terminal for a digital computer that is responsive to finger pointing information. The data input terminal includes a video display for displaying an image to a human operator, a video camera mounted for scanning a region of space near said image and providing a video signal, an analog-to-digital converter receiving said video signal and providing digital samples of image data, and digital computing means for receiving said digital samples of image data and analyzing said image data to recognize when a pointing finger of a human operator is present in the image data and to determine the location of the pointing finger in the image when the pointing finger is present.

Sigel, col. 3, lines 1 – 14.

Claim 30

Sigel teaches that the image processing steps performs processing on portions of the image that are designated by a specific color. Sigel, col. 5, lines 3 – 11.

Claim 31

Sigel teaches an input step of carrying out a control input on an object pointed to by the designated pointer on the display surface. Sigel, col. 4, lines 27 – 58.

Claim 32

Sigel teaches that the designated pointer is displayed by detecting a fingertip as the image [pointing finger 28]. Sigel, col. 4, lines 12 – 17; and figures 1 and 2.

Claim 33

Sigel teaches that the position detecting step compares the image captured by the imaging step or the image extracted by the image processing step with a plurality of image patterns corresponding to the control inputs respectively, and when the captured or extracted image matches any one of the image patterns, the input step carries out a control input that corresponds to the matched image pattern. Sigel, col. 6, lines 30 – 64.

Claim 34

Sigel teaches that the position detecting step compares the images captured by the imaging step or the images extracted by the image processing step with a combination of a plurality of image patterns corresponding to one of the control input, and when the captured or extracted image match any one of the combination of image patterns, the input step carries out a control input that corresponds to the matched combination of image patterns. Sigel, col. 6, lines 30 – 64.

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Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kumar et al., USPN 6,624,833 B1 and 6,147,678; DeLeeuw et al., USPN 6,088,018; and Rafii et al., USPN 6,614,422 B1, each teach gesture based input devices.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leland Jorgensen whose telephone number is 703-305-2650. The examiner can normally be reached on Monday through Friday, 7:00 a.m. through 3:30 p.m..

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231


or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office, telephone number (703) 306-0377.

lrj


DENNIS-DOON CHOW
PRIMARY EXAMINER